

We claim:

1. A method of applying a barrier coating to pipes, comprising the steps of:
 - (a) identifying problems with an entire building piping system;
 - 5 (b) planning and setting up an onsite labor and equipment for the piping system;
 - (c) air drying interior walls of the piping system;
 - (d) profiling the interior walls of the dried piping system;
 - (e) applying a barrier coating to the interior walls of the profiled piping system;
 - and
 - 10 (f) evaluating the interior coated walls of the barrier coated piping system.
2. The method of claim 1, wherein the identifying step (a) includes the steps of:
 - interviewing onsite to determine problems;
 - evaluating local and onsite water qualities to determine hardness and aggressive
 - 15 qualities;
 - determining damage to wall thickness of individual piping and piping integrity;
 - identifying and evaluating leaks in the piping system; and
 - developing corrosion proposal for piping system.
- 20 3. The method of claim 2, wherein the planning and setting up step (b) includes the steps of:
 - completing contract development for proposal;
 - commencing project planning for proposal;
 - delivering equipment and supplies to worksite;
 - 25 mechanically isolating the piping system;
 - setting up of hosing and the equipment at the worksite.

4. The method of claim 1, wherein the air drying step (c) includes the step of:
mapping the piping system;
isolating riser system of the piping system;
connecting the piping system to the equipment supplying the barrier coating;
5 draining water from the riser system in the piping system;
flushing residual water from the riser system with compressed air;
drying the riser system; and
inspecting the riser system to assure dry condition.
- 10 5. The method of claim 1, wherein the step (d) of profiling includes the step of:
introducing a dry abrasive agent into the piping system by compressed air from a
source connected outside of the piping system; and
air flushing the piping system to remove any remaining residuals.
- 15 6. The method of claim 1, wherein the step (e) of applying the barrier coating
includes the step of:
heating the piping system;
checking the piping system for leaks;
preparing and metering the barrier coating to selected values;
20 injecting the barrier coating into the piping system with compressed air;
coating interior walls to achieve a coating layer of no less than approximately 4
mils;
injecting compressed air into the piping system to set the coating layer;
curing the coating layer in the piping system.
- 25 7. The method of claim 1, wherein the step (f) of evaluating includes the steps of:
removing connections to the equipment;

- examining pipe segments to assure coating standards;
re-confirming valves and the pipe segments in the piping system support air flow;
re-installing original valves, fittings, fixtures of the piping system;
reconnecting water supply to the piping system;
- 5 completing checks of the reconnected piping system to determine integrity;
 completing a water flush of the reconnected piping system;
 evaluating water flow and quality in the reconnected piping system; and
 documenting riser schedule and completing pipe labeling.
- 10 8. The method of claim 1, further comprising the step of:
 providing piping for the piping system having a diameter of approximately 3/8
 inch up to approximately 6 inches.
9. The method of claim 1, further comprising the step of:
- 15 providing piping for the piping system having bends of up to and including ninety
 degree bends in the piping system.
10. A method of mixing and applying a corrosion barrier coating to an existing piping
 system in a multi-story building, comprising the steps of:
- 20 isolating the pipes in the existing multi-story piping system;
 cleaning the pipes with a nonliquid agent;
 mixing an epoxy material to form a barrier coating;
 applying the barrier coating to interior walls of the pipes without dismantling all
 of the piping system, wherein the barrier coating provides an interior barrier for
25 protecting the interior walls of the pipes; and
 restoring the pipes of the existing piping system to service is less than
 approximately ninety six hours.

11. The method of claim 10, wherein the step of applying includes the steps of:
inserting the barrier coating into the pipes having diameters of approximately 3/8
of an inch to approximately 6 inches and greater.
- 5 12. The method of claim 10, further comprising the step of:
providing a layer of the coating to be no less than approximately 4 mils
13. The method of claim 10, wherein the pipes include: hot water pipes.
- 10 14. The method of claim 10, wherein the pipes include: cold water pipes.
15. The method of claim 10, wherein the pipes include: drain lines.
16. The method of claim 10, wherein the pipes include: fire sprinkler pipes.
- 15 17. The method of claim 10, wherein the pipes include: natural gas lines.
18. The method of claim 10, wherein the pipes include: HVAC pipes.
- 20 19. A method of applying a barrier coating to pipes, comprising the steps of:
(a) drying interior walls of the pipes in a building piping system;
(b) cleaning the interior walls of the dried pipes with dry particulates emanating
from a fixed source located outside the piping system; and
(c) coating the interior walls of the cleaned piping system with a barrier coating.
- 25 20. The method of claim 19, wherein the drying step (a) includes the step of:
mapping the piping system;

- isolating risers of the piping system;
connecting the piping system to equipment supplying the barrier coating;
draining water from the riser system in the piping system;
flushing residual water from the riser system with compressed air;
5 drying the riser system; and
inspecting the riser system to assure dry condition.
21. The method of claim 19, wherein the step (b) of cleaning includes the step of:
introducing a dry abrasive agent into the piping system by compressed air;
10 inspecting the piping system to assure cleaning and profiling standard; and
air flushing the piping system to remove any remaining residuals.
22. The method of claim 19, wherein the step (c) of the coating includes the step of:
heating the piping system;
15 checking the piping system for leaks;
preparing and metering the barrier coating to selected values;
injecting the barrier coating into the piping system with compressed air;
coating interior walls to achieve a coating layer of up to approximately 4 mils;
injecting compressed air into the piping system to set the coating layer;
20 curing the coating layer in the piping system.
23. The method of claim 19, wherein the cleaning step(b) includes the step of:
cleaning all the interior walls of the pipes in the building piping system within a
single pass run.
25
24. The method of claim 19, wherein the coating step(c) includes the step of:

coating all the interior walls of the pipes in the building piping system in a single pass run.

25. A system for applying barrier coatings to interior walls of piping systems in
5 buildings, comprising:
means for drying pipe interior walls of existing piping in a building;
means for cleaning the dried interior walls of the building piping without using
liquids and chemical agents; and
means for applying a barrier coating to the cleaned walls of the building piping.
- 10
26. The system of claim 25, wherein the existing piping includes: drain lines.
27. The system of claim 25, wherein the existing piping includes: hot water lines.
- 15 28. The system of claim 25, wherein the existing piping includes: cold water lines.
29. The system of claim 25, wherein the existing piping includes: potable water lines.
30. The system of claim 25, wherein the existing piping includes: natural gas lines.
- 20 31. The system of claim 25, wherein the existing piping includes: HVAC lines.
32. The system of claim 25, wherein the drying means includes: forced air.
- 25 33. The system of claim 25, wherein the cleaning means includes:
a dry abrasive agent emanating from a source outside the building..

34. The system of claim 33, further comprising:
means for heating the interior walls after the abrasive agent.
35. The system of claim 25, wherein the barrier coating includes:
5 a thermo set resin coating.
36. The system of claim 25, wherein the piping includes:
diameters of approximately 3/8 " to approximately 6".
- 10 37. The system of claim 34, wherein the barrier coating includes:
a thickness of at least approximately 4 mils thick on the interior pipe walls.
38. The system of claim 25, wherein the piping system includes:
bends of up to and including approximately 90 degrees in the building.
- 15 39. The system of claim 25, wherein the building is a single story building, and all the
piping system is cleaned in a single pass operation run through the piping system.
40. The system of claim 25, wherein the building includes: a single story building,
20 and the barrier coating is applied in a single pass operation run through the piping system.
41. The system of claim 25, wherein the building is a multi-story building, and all the
piping system is cleaned in a single pass operation run through the piping system.
- 25 42. The system of claim 25, wherein the building includes: a multi-story building, and
the barrier coating is applied in a single pass operation run through the piping system.